

Improved Electrical Contact For Down-hole Drilling Networks

Abstract

An electrical contact system for transmitting information across tool joints while minimizing signal reflections that occur at the tool joints includes a first electrical contact comprising an annular resilient material. An annular conductor is embedded within the annular resilient material and has a surface exposed from the annular resilient material. A second electrical contact is provided that is substantially equal to the first electrical contact. Likewise, the second electrical contact has an annular resilient material and an annular conductor. The two electrical contacts configured to contact one another such that the annular conductors of each come into physical contact. The annular resilient materials of each electrical contact each have dielectric characteristics and dimensions that are adjusted to provide desired impedance to the electrical contacts.